

US009486924B2

(12) United States Patent

Dubrovsky et al.

(54) REMOTE CONTROL SCHEDULER AND METHOD FOR AUTONOMOUS ROBOTIC DEVICE

(71) Applicant: iRobot Corporation, Bedford, MA

(US)

(72) Inventors: Zivthan A. Dubrovsky, Waltham, MA

(US); **Gregg W. Landry**, Gloucester, MA (US); **Michael J. Halloran**, Bedford, MA (US); **James Lynch**,

Georgetown, MA (US)

(73) Assignee: iRobot Corporation, Bedford, MA

(US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 14/670,572

(22) Filed: Mar. 27, 2015

(65) Prior Publication Data

US 2016/0023357 A1 Jan. 28, 2016

Related U.S. Application Data

- (63) Continuation of application No. 11/166,891, filed on Jun. 24, 2005, now Pat. No. 9,008,835.
- (60) Provisional application No. 60/582,531, filed on Jun. 24, 2004.
- (51) **Int. Cl.****B25J 13/00 (2006.01)

 **G05B 19/409 (2006.01)

 (Continued)

G05D 1/0033 (2013.01); G05B 2219/34456

(10) Patent No.: US 9,486,924 B2

(45) **Date of Patent:** Nov. 8, 2016

(2013.01); G05B 2219/36159 (2013.01); G05D 1/0225 (2013.01); G05D 1/0242 (2013.01); (Continued)

(58) Field of Classification Search

CPC B25J 13/006; B25J 9/1674; B25J 13/00; G05B 19/409; G05B 1/0016; G05B 1/0033 See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

1,755,054 A 4/1930 Darst 1,780,221 A 11/1930 Buchmann (Continued)

FOREIGN PATENT DOCUMENTS

DE 2128842 C3 12/1980 DE 3317376 C2 12/1987

(Continued)

OTHER PUBLICATIONS

http://robotbg.com/news/2012/01/14/lg_hom_bot_20_demo_at_ces_2012.*

(Continued)

Primary Examiner — Nicholas Kiswanto (74) Attorney, Agent, or Firm — Fish & Richardson P.C.

(57) ABSTRACT

A method of scheduling a robotic device enables the device to run autonomously based on previously loaded scheduling information. The method consists of a communication device, such as a hand-held remote device, that can directly control the robotic device, or load scheduling information into the robotic device such that it will carry out a defined task at the desired time without the need for further external control. The communication device can also be configured to load a scheduling application program into an existing robotic device, such that the robotic device can receive and implement scheduling information from a user.

19 Claims, 6 Drawing Sheets

